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NEVADA COOPERATIVE SNOW SURVEYS

NEVADA  
SNOW SURVEY BULLETIN

MARCH 1947.

Nevada Agricultural Experiment Station  
Reno, Nevada

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FEDERAL- STATE COOPERATIVE  
SNOW SURVEYS AND IRRIGATION WATER FORECASTS  
FOR  
NEVADA

Report Prepared  
by  
Clyde E. Houston- Hydraulic Engineer  
Division of Irrigation  
Soil Conservation Service  
and  
H. P. Boardman- Chairman  
Nevada Cooperative Snow Surveys

NEVADA AGRICULTURAL EXPERIMENT STATION  
RENO, NEVADA

THE 1960 TAT SURVEY  
AND THE CONTINUING SURVEY OF THE

1960

RESULTS

DEPARTMENT OF LABOR

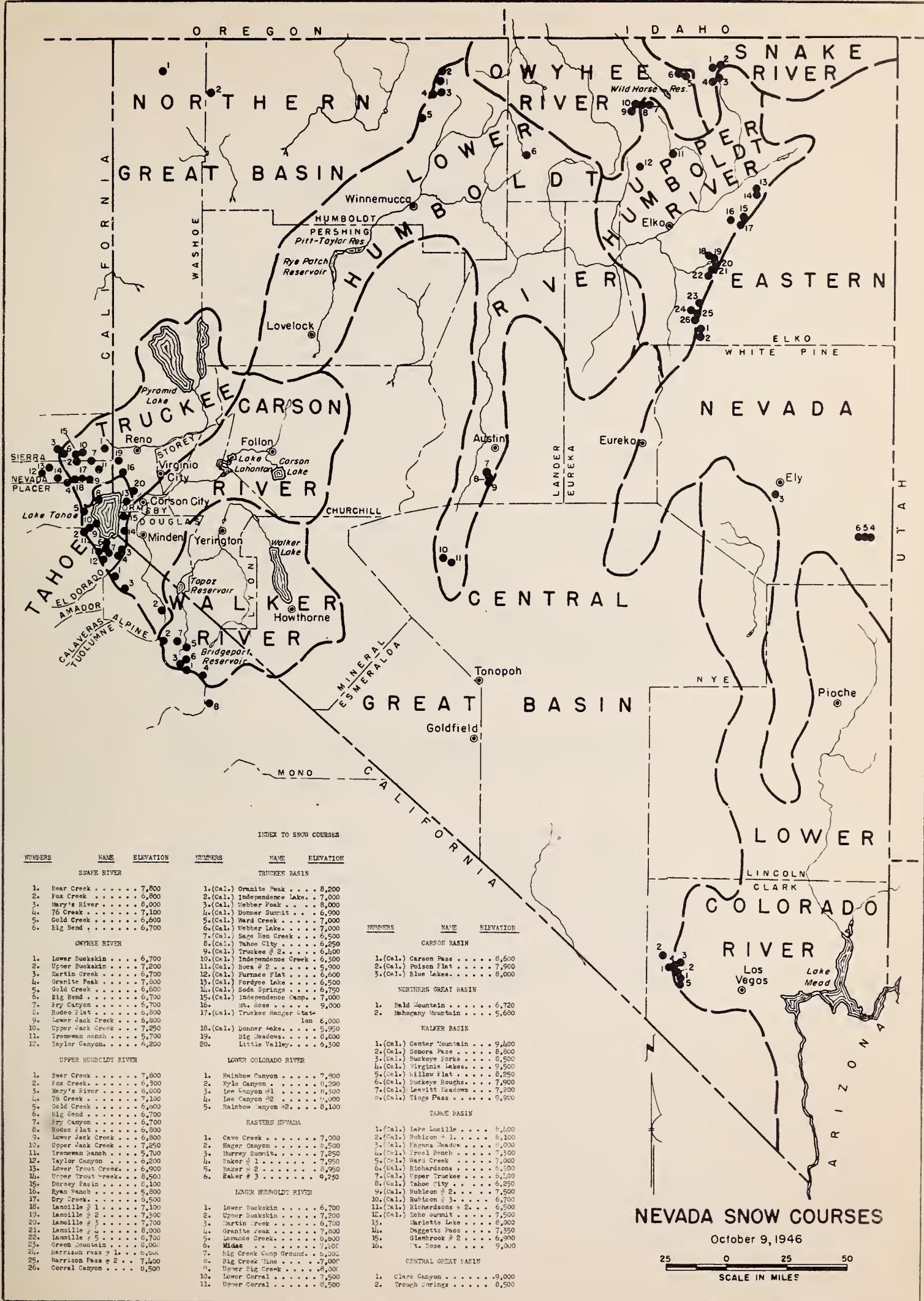
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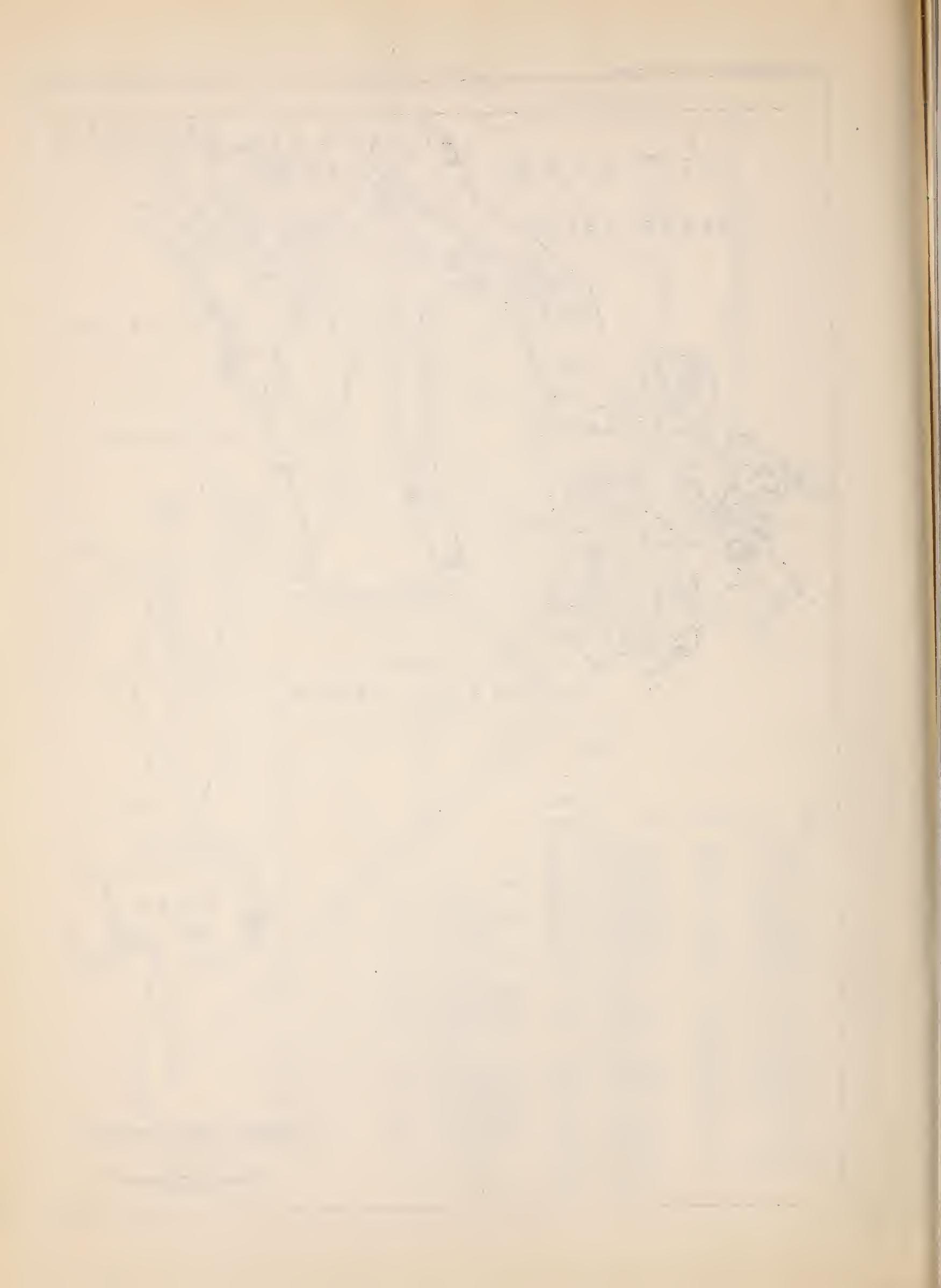
EMPLOYMENT OUTLOOK FOR 1961  
CONTINUING SURVEY OF THE  
EMPLOYMENT OUTLOOK FOR 1961

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EMPLOYMENT OUTLOOK FOR 1961  
CONTINUING SURVEY OF THE  
EMPLOYMENT OUTLOOK FOR 1961

EMPLOYMENT OUTLOOK FOR 1961  
CONTINUING SURVEY OF THE  
EMPLOYMENT OUTLOOK FOR 1961





March 1, 1947

## PRELIMINARY WATER SUPPLY OUTLOOK

Water stored in snow throughout Nevada is below average on 89 percent of the 64 snow courses measured at this date.

Total precipitation since October 1 throughout the valleys of the state is above normal except along Truckee River and in Eastern Nevada.

Valley soils are well saturated throughout most of the state and ground water conditions are practically normal.

Reservoir storage is good with the March 1 storage about 97 percent of last year and about 110 percent of the 1936-1945 average. Total storage is about 75 percent of capacity of the reservoirs. Lake Mead is low with present storage only 60 percent of usable capacity and 80 percent of the average for this date.

## SOMMARIO

## INTRODUZIONE ALLA STORIA DELLA

Storia della filosofia. La storia della filosofia è la storia della filosofia antica, della filosofia medievale, della filosofia moderna, della filosofia contemporanea. La storia della filosofia è la storia della filosofia greca, della filosofia romana, della filosofia medievale, della filosofia rinascimentale, della filosofia moderna, della filosofia contemporanea. La storia della filosofia è la storia della filosofia greca, della filosofia romana, della filosofia medievale, della filosofia rinascimentale, della filosofia moderna, della filosofia contemporanea.

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PRELIMINARY STREAMFLOW FORECASTS, MARCH 1, 1947

BASIN AND STREAM	April-July, inclusive Streamflow Thousands Acre Ft.				
	Forecast 1947	Measured Run-off			10-yr. avg. 1936-1945
		1946	1945	1944	
Owyhee River at Mountain City, Nevada	30	68	90	39	63
Lamoille Creek near Lamoille, Nevada	20	25	37	29	28 <sup>a</sup>
South Fork Humboldt River near Elko, Nevada	50	90	168	101	88 <sup>a</sup>
Humboldt River at Palisade, Nevada	150	256	486	229	250
Martin Creek near Paradise, Nevada	10	14	23	13	17
Truckee River at Farad, California	No forecast until Apr. 1	270	250	179	288
Carson River at Fort Churchill, Nevada	"	154	210	97	199
East Walker River near Bridgeport, California <sup>b</sup>	"	58	101	45	83
West Walker River near Coleville, California	"	151	191	113	172

a - For period 1937-1945

b - For period April-August inclusive



PRELIMINARY STREAMFLOW FORECAST  
(April through July)

Snake River in Nevada

Snow water contributions to runoff of Salmon Falls Creek and Bruneau River will be about 65 percent and 50 percent of normal respectively. Flow of Owyhee River at Mountain City is forecasted at 30,000 acre-feet or less than 50 percent of normal. Wildhorse Reservoir, with a capacity of 33,000 acre-feet, now has 14,000 acre-feet in storage. Under normal conditions this reservoir will be full in May.

Upper Humboldt River

Marys River may be expected to flow about 60 percent of normal while North Fork, Susie and Maggie Creeks will discharge less than 50 percent of normal.

The southern feeders to the Humboldt River from Trout Creek to Lamoille Creek will flow about 50 percent of normal while Lamoille Creek is forecasted to discharge about 20,000 acre feet or 70 percent of normal measured near Lamoille. The forecasted runoff of South Fork near Elko is 50,000 acre-feet or about 60 percent of normal. The remaining southern feeders will flow about 70 percent of normal. The forecasted flow of Humboldt River at Palisade is about 150,000 acre feet or about 60 percent of last year.

The general water outlook for the Upper Humboldt Basin is for normal supplies early in the irrigation season decreasing to noticeable shortages during the late season.

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1.  $\text{H}_2\text{O}_2$  (10% v/v) (200 µl) (100 µl)  
(100 µl) (100 µl) (100 µl)

## Answers and reviews

## 第二章 从政治到经济：政治与经济的互动

Lower Humboldt River

Water will be short in the Paradise Valley area with Martin Creek forecasted to flow about 10,000 acre-feet or 60 percent of average. Here too, early season supplies will be adequate with shortages appearing during the summer and fall. Reese River area is in better condition than at the same date last year with runoff expected to reach about 90 percent of normal. The main stem of the Lower Humboldt will be short of natural streamflow, but this shortage will be alleviated in Pershing County Water Conservation District by the capacity storage of 178,000 acre feet in Rye Patch Reservoir on March 1.

Eastern Nevada

Snow water runoff into Ruby Valley and Steptoe Valley will be about 70 percent of normal while Baker and Lehman Creeks will flow about normal.

Lower Colorado River

Snow cover in the Spring Mountains near Las Vegas is about 150 percent of last year and 70 percent of normal. Lake Mead is lower than at anytime since 1938 which was the latter period of its initial filling.

Sierra Nevada

Tahoe, Truckee, Carson and Walker River forecasts will be presented in the April 1 Snow Survey Bulletin. March 1 surveys at key courses indicate in general that the snow pack is about 50 percent of last year at this date and 50 percent of the 1936-1945 April 1 average. Reservoir storage in these basins is good with March 1 storage about 90 percent of last year and 115 percent of the 1936-1945 average.



STATUS OF RESERVOIR STORAGE, MARCH 1, 1947 •

BASIN AND STREAM	RESERVOIR	CAPACITY (Thous. A.F.)	USABLE				10-yr. avg. 1936-1945
			1947	1946	1945	1944	
Owyhee	Wildhorse	33	14	20	12	14	10 <sup>a</sup>
Lower Humboldt	Pitt Taylor	27	21	14	11	- b	22 <sup>c</sup>
Lower Humboldt	Rye Patch	178	178	161	178	157	169 <sup>d</sup>
Tahoe	Tahoe	750	508	543	423	475	407
Carson	Lahontan	286	220	229	238	257	223
West Walker	Topaz	59	46	56	41	44	41
East Walker	Bridgeport	42	41	58	38	40	56
Colorado	Mead	27,935	16,692	18,275	18,772	19,790	20,158 <sup>e</sup>

a - Average for years 1940-1945

b - No record

c - Average for years 1937-1942, 1945

d - Average for years 1943-1945

e - Average for years 1939-1945



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VALLEY PRECIPITATION<sup>a</sup>

Division	Current Year		Last Year	
	Oct.1, 1946 - Mar.1, 1947	P	Oct.1, 1945 - Mar.1, 1946	D
Snake River	4.32	+1.50	2.29	-.53
Upper Humboldt	6.37	+1.23	4.36	-.78
Lower Humboldt	5.44	+1.12	4.34	+.02
Eastern Nevada	4.15	-.15	3.28	-.1.02
Lower Colorado	1.95	0	1.13	-.82
Central Great Basin	5.27	+5.34	2.48	+.55
Northern Great Basin	2.77	+.10	2.56	-.11
Truckee	3.61	-1.09	4.41	-.29
Carson	2.78	+.37	2.06	-.35
Walker	3.64	+1.45	2.26	+.07

P = Inches Precipitation

D = Inches Departure from Normal

a = Data furnished by U. S. Weather Bureau



## NEVADA SNOW SURVEYS MARCH 1, 1947

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DRAINAGE BASIN and SNOW COURSE	Number	Sec.	Twp.	Rge.	Elev.	Date of Survey	Snow Depth (inches)	SNOW COVER MEASUREMENTS			Past Years of Content (inches)	Record
								1946	1947	Water Content (inches)		
SNAKE RIVER												
Bear Creek	1	31	46N	58E	7800	2/24	43.6	13.4	17.2	13.4	15	16.1
Fox Creek	2	33	46N	58E	6800	2/25	16.4	4.9	9.4	6.9	15	8.6
Mary's River	3	34	45N	58E	8000	2/26	30.5	9.2	16.9	No Survey	9	17.7
76 Creek	4	6	44N	61E	7100	2/26	23.4	6.9	13.3	New Course	1	13.3
Gold Creek	5	31	45N	56E	6600	3/4	12.9	3.2	7.3	6.3	15	6.8
Big Bend	6	30	45N	56E	6700	3/4	20.6	5.3	10.1	8.1	18	9.1
ONYHEE RIVER												
Lower Buckskin	1	25	45N	39E	6700					No Survey	7.1	8.2
Upper Buckskin	2	11	45N	39E	7200					No Survey	6.7	14.2
Martin Creek*	3	18	44N	40E	6700	2/28		10.8		3.8	6.7	14.0
Granite Peak*	4	22	44N	39E	7800	2/28	19.5	6.8		13.0	11.4	7.2
Gold Creek	5	31	45N	56E	6600	3/4	12.9	3.2		7.3	15	9.7
Big Bend	6	30	45N	56E	6700	3/4	20.6	5.3		10.1	18	6.8
Fry Canyon	7	31	43N	54E	6700	3/1	16.5	4.5		8.8	13	9.1
Rodeo Flat	8	36	43N	53E	6800	3/1	16.6	4.7		9.5	10.0	10.4
Lower Jack Creek	9	18	42N	53E	6800	3/2	7.0	1.2		5.2	6.6	5.2
Upper Jack Creek	10	9	42N	53E	7250	3/2	22.8	5.2		9.7	10.7	10.1
Tremewan Ranch	11	9	39N	55E	5700	3/1			No Snow	5.2	2.5	3.0
Taylor Canyon	12	35	39N	53E	6200	3/2		2.4		0.5	6.7	6.5



## NEVADA SNOW SURVEYS MARCH 1, 1947

DRAINAGE B/ SIN and SNOW COURSE	Number	Sec.	Twp.	Rge.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS			Years of Record	Av. Water Content (inches)
							Snow Depth (inches)	Water Content (inches)	1945		
UPPER FURBOLDT											
Bear Creek	1	31	46N	58E	6700	2/24	43.6	15.4	17.2	13.4	16.1
Fox Creek	2	33	46N	58E	7200	2/25	16.4	4.9	9.4	6.9	8.6
Mary's River	3	34	45N	58E	6700	2/26	30.5	9.2	16.9	No Survey	17.7
76 Creek	4	6	44N	61E	7800	2/26	23.4	6.9	15.3	New Course	13.3
Gold Creek	5	31	45N	56E	6600	3/4	12.9	3.2	7.3	6.3	6.8
Big Bend	6	30	45N	56E	6700	3/4	20.6	5.3	10.1	8.1	9.1
Fry Canyon	7	31	43N	54E	6700	3/1	16.5	4.3	8.8	8.6	9.5
Rodeo Flat	8	36	43N	53E	6800	3/1	16.6	4.7	9.5	10.0	10.4
Lower Jack Creek	9	18	42N	53E	6800	3/2	7.0	1.2	5.2	6.6	5.2
Upper Jack Creek	10	9	42N	53E	7250	3/2	22.8	5.2	9.7	10.7	11.1
Tremewan Ranch	11	9	39N	55E	5700	5/1	No Snow	2.5	2.5	2.2	3.0
Taylor Canyon	12	35	39N	53E	6200	3/2	2.4	0.5	6.7	7.6	6.5
Lower Trout Creek	13	28	37N	61E	6900	2/28	7.8	1.5	No Survey	6.4	12
Upper Trout Creek*	14	4	36N	61E	8500	2/28	34.6	10.8	No Survey	21.1	11
Dorsey Basin	15	27	35N	60E	8100	3/1	No Survey	11.1	10.1	11.0	11.0
Ryan Ranch	16	1	34N	59E	5800	3/1	No Snow	0.9	3.1	15	2.3
Dry Creek	17	5	34N	60E	6500	26.9	No Survey	5.9	5.8	14	5.9
Lamoille #1	18	15	32N	58E	7100	3/3	22.0	7.1	10.0	10.5	9.2
Lamoille #2	19	14	32N	58E	7300	3/3	31.5	9.3	12.7	12.4	9.6
Lamoille #3	20	24	32N	58E	7700	3/3	45.6	16.0	17.4	No Survey	12.5
Lamoille #4	21	19	32N	59E	8000	3/3	66.5	22.4	30.1	22.1	17.2
Lamoille #5*	22	31	32N	59E	8700	3/3	24.9	7.5	12.8	13.2	23.7
Green Mountain	23	23	29N	57E	8000	2/27	24.9	2.4	4.4	5.9	13.6
Harrison Pass #1	24	10	28N	57E	6600	2/28	10.5	2.5	4.6	6.9	5.7
Harrison Pass #2	25	16	28N	57E	7400	2/28	11.1	2.5	4.6	6.9	17
Corral Canyon	26	27	28N	57E	8500	2/26	45.5	14.5	18.3	18.1	12



NEVADA SNOW SURVEYS MARCH 1, 1947

DRAINAGE BASIN and SNOW COURSE	Number	Sec.	Twp.	Rge.	Elev.	Survey	(inches)	SIGHT COVER MEASUREMENTS		Past Record
								Date	Snow Depth	
LOWER HUMBOLDT										
Lower Buckskin	1	25	45N	39E	6700	No Survey		7.1	8.8	14
Upper Buckskin	2	11	45N	39E	7200	No Survey		6.7	14.2	14
Martin Creek*	3	18	44N	40E	6700	2/28	10.8	3.8	6.6	10.0
Granite Peak*	4	22	44N	39E	7800	2/28	19.5	6.8	11.4	7.2
Lamance Creek	5	15	42N	38E	6600	No Survey		10.3	9.6	20
Midas	6	18	39N	46E	7200	3/1	Trace	5.2	7.9	15.4
Big Creek Camp Ground	7	10	17N	43E	6000	2/27	4.5	1.2	5.1	10.7
Big Creek Mine	8	23	17N	43E	7000	2/27	12.6	5.3	5.5	9.7
Upper Big Creek	9	26	17N	43E	8000	2/27	31.0	9.0	9.4	6.6
Lower Corral	10	12	11N	40E	7500	3/1	No Snow	0	5.5	17.4
Upper Corral	11	20	11N	41E	8500	3/1	19.8	6.5	4.6	11.1
EASTERN NEVADA										
Cave Creek	1	25	27N	57E	7000	3/5	29.9	11.1	15.5	5
Hager Canyon	2	34	27N	57E	8500	3/3	39.1	14.5	17.9	15.8
Murray Summit	3	25	18N	62E	7250	2/27	9.4	5.8	4.6	18.2
Baker #1	4	29	13N	69E	7950	2/26	21.1	5.6	3.1	4.1
Baker #2	5	30	13N	69E	8950	2/26	51.4	18.3	7.9	6.6
Baker #3	6	25	13N	68E	9250	2/26	61.7	22.2	14.5	17.4
									No Survey	2



## NEVADA SNOW SURVEYS MARCH 1, 1947

DRY TRAVERSE AND SNOW COURSE	Number	Sec.	Twp.	Rge.	Elev.	Date of Survey (inches)	SNOW COVER MEASUREMENT		Years of Record (inches)	Past Record
							Water Content (inches)	Water Content (inches)		
LOWER COLORADO										
Rainbow Canyon	1	31	19S	57E	7800	3/1	29.2	9.9	7.1	13.1
Kyle Canyon	2	26	19S	56E	8200	3/1	26.7	8.9	6.3	12.1
Lee Canyon #1	3	10	19S	56E	8300	3/5	19.9	7.5	4.4	10.9
Lee Canyon #2	4	9	19S	56E	9000	3/6	29.1	9.1	6.3	12.7
Rainbow Canyon #2	5	6	20S	57E	8100	3/1	42.3	15.0	New Course	
CENTRAL GREAT BASIN										
Clark Canyon	1	8	19S	56E	9000	3/6	24.8	7.6	4.9	4.3
Trough Springs	2	23	18S	55E	8500	2/28	13.9	4.9	4.3	4.3
NORTHERN GREAT BASIN										
Bald Mountain	1	17	45N	21E	6720	2/28	5.0	0.6	3.1	4.6
Mahogany Mountain	2	36	43N	24E	5680		No Survey	No Survey	3.3	3.0
TahoE										
Tahoe City (Cal)	8	6	15N	17E	6250	3/1	Trace	12.2	5.8	13.1 a
Richardsons #2 (Cal)	11	6	12N	18E	6500	3/1	28.5	15.2	10.6	16.8 a
Echo Summit (Cal)	12	6	11N	18E	7500	2/28	63.0	22.5	28.3	41.3 a



## NEVADA SNOW SURVEYS MARCH 1, 1947

DRAINAGE BASIN and SNOW COURSE	LOCATION						SNOW COVER MEASUREMENTS						Fest Record Years of Record	
	Number	Sec.	Twp.	Rge.	Elev.	Survey (inches)	Water Content (inches)			Av. Water Content (inches)				
							1947	1946	1945					
TAHOE, (Cont.)														
Marlette Lake*	13	13	15N	18E	8000	3/3	58.1	20.4	21.5	34	25.5 <sup>a</sup>			
Daggetts Pass*	14	19	15N	19E	7350	3/1	31.6	11.2	11.0	5	16.5 <sup>a</sup>			
TRUCKEE														
Independence Lake (Cal)	2	9	18N	15E	8450	3/1	59.6	23.9	No Survey	10	44.0 <sup>a</sup>			
Donner Summit (Cal)	4	25	17N	14E	6900	2/28	46.9	17.9	41.0	36	39.6 <sup>a</sup>			
Sage Hen Creek (Cal)	7	7	18N	16E	6500	3/2	25.4	9.7	18.8	10	19.5 <sup>a</sup>			
Tehoe City* (Cal)	8	6	15N	17E	6250	3/1	Trace		12.2	5.8	3.5	13.1 <sup>a</sup>		
Independence Creek (Cal)	10	14	19N	15E	6300	2/28	10.7	4.3	No Survey	10	14.4 <sup>a</sup>			
Furnace Flat (Cal)	12	10	17N	13E	6600	2/26	49.6	20.5	49.4	29	45.0 <sup>a</sup>			
Fordyce Lake (Cal)	13	34	18N	15E	6500	2/25	37.6	15.8	38.7	22	37.7 <sup>a</sup>			
Soda Springs (Cal)	14	23	17N	14E	6750	2/28	35.7	14.3	36.5	18	35.7 <sup>a</sup>			
Independence Camp (Cal)	15	34	19N	15E	7000	2/28	29.0	10.6	25.5	6	23.3 <sup>a</sup>			
Truckee Ranger Sta. (Cal)	17	10	17N	16E	6000	3/5	21.6	5.9	13.9	2	11.7 <sup>a</sup>			
Donner Lake (Cal)	18	14	17N	15E	5950	2/27	15.7	7.0	21.6	3	24.3 <sup>a</sup>			
CARSON BASIN														
Carson Pass	1	22	10N	18E	8600	2/28	66.9	24.8	28.5	17	37.1 <sup>a</sup>			
Blue Lakes	3	30	9N	19E	8000	2/28	65.3	25.2	32.3	27	35.3 <sup>a</sup>			

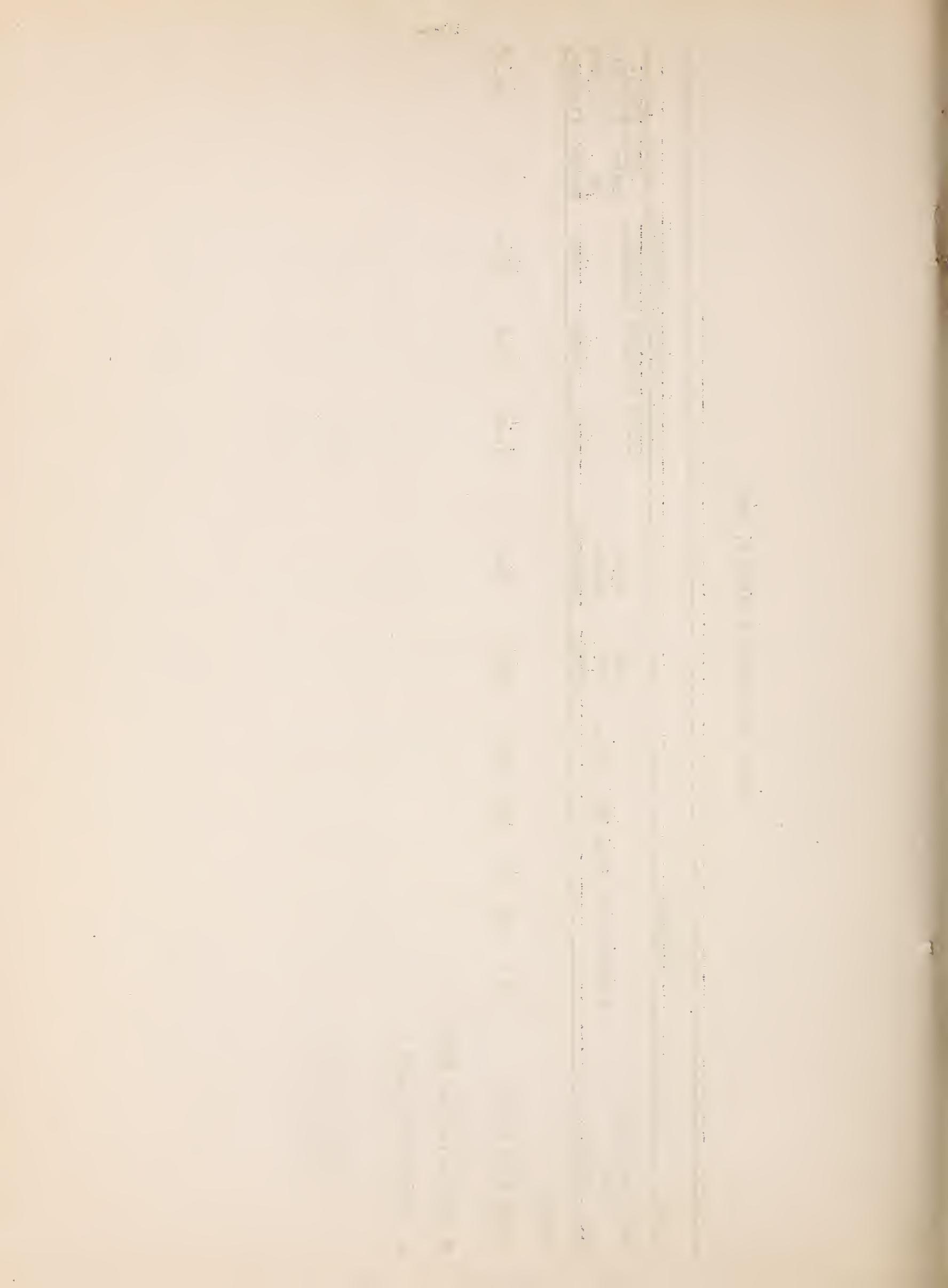


## NEVADA SNOW SURVEY MARCH 1, 1947

DRAINAGE BASIN and SNOW SOURCE	Number	Sec.	Twp.	Rge.	Elev.	LOCATION	SNOW COVER MEASUREMENTS			Past Record Years of Snow Content Record (inches)
							Date Survey	Snow Depth (inches)	Water Content (inches)	
WALKER										
Tioga Pass (Call)	8	30	1N	25E	9900	2/26	43.7	15.6	23.0	27.4

\* Course revised 1947

a Average for April 1



Snow Surveyors  
March 1, 1947

Upper Humboldt

J. Abegglen	C. Houston
R. Branstead	R. Kuehner
T. Brierley	L. McKenzie
A. Corta	P. Mendive
H. Corta	A. Torgerson
H. Hansen	R. Work

Lower Humboldt

V. Arzuaga	Q. Hansen
H. Cooley	E. Pitts
C. Gnevo	J. Ugaldea
D. Hansen	L. Wilkerson

Eastern Nevada

H. Dill	R. Thomson
C. Houston	K. Wolf
F. Olsen	R. Work

Northern Great Basin

J. Schwartz

Central Great Basin

H. Beisswinger	H. Hoffman
E. Hance	

Lower Colorado

H. Beisswinger	H. Hoffman
E. Hance	

Carson Basin

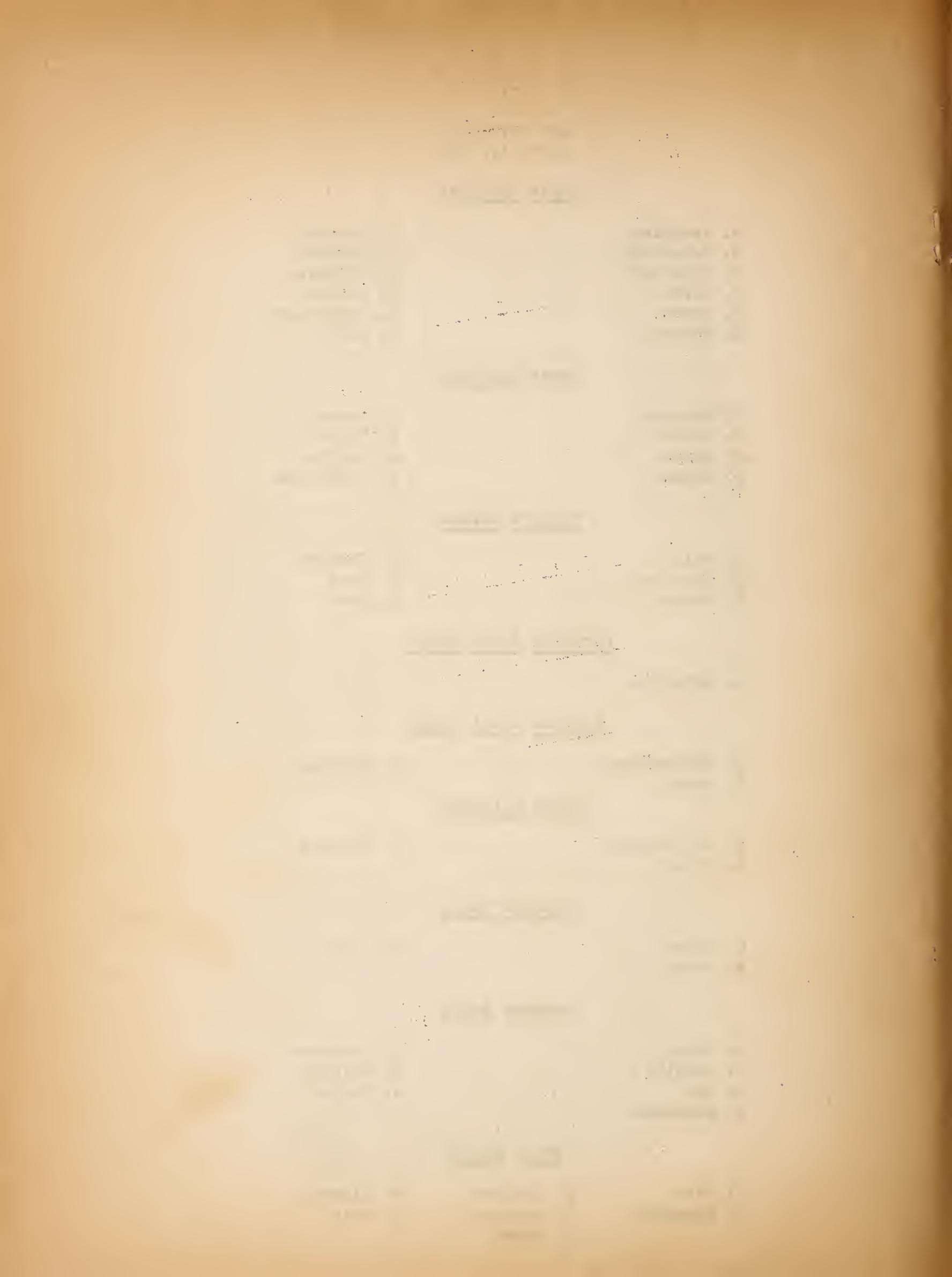
D. Deane	N. Green
F. Deane	

Truckee Basin

A. Chase	J. Johansen
P. Cowgill	E. Raiford
V. Hart	J. Watts
E. Johansen	

Tahoe Basin

W. Herz	F. Hodgkins	W. Simmonds
D. Hodgkins	H. Leonard	H. Wolf
	E. Marsh	



NEVADA COOPERATIVE SNOW SURVEYS

State

Nevada State Engineer  
Nevada Agricultural Experiment Station  
California Division of Water Resources

Federal

Soil Conservation Service  
Forest Service  
Weather Bureau  
Bureau of Reclamation  
Geological Survey  
Fish and Wildlife Service

Public Utilities

Sierra Pacific Power Company  
Elko-Lamoille Power Company  
Wells Power Company

Organized Public Agencies

Truckee-Carson Irrigation District  
Washoe County Water Conservation District  
Walker River Irrigation District

